



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

idle, but that, on the formation of practicable roads, the axe and saw will shortly resound amongst it, to the mutual advantage of the colony and of its parent country.

The pleasing duty now only remains to me of reporting my entire satisfaction with the praiseworthy conduct of Messrs. Gregory and Ridley, and of privates Lee and Buck of the 96th, who were associated with me on this expedition. To the cheerfulness and alacrity with which each and all were ever at their respective posts, putting forth their best energies and exertions to overcome formidable obstacles, and to further the objects in view, is mainly to be attributed, under Providence, my successful accomplishment of the duties pointed out in his Excellency's instructions; nor can I speak too highly of that spirit of steady endurance and determination with which they met unavoidable privations, and faced difficulties and impediments of no ordinary description, during our long and toilsome journey.

II.—*The Settlers' Expedition to the Northward from Perth, under Mr. Assistant-Surveyor A. C. Gregory.*

WE could not do justice to the enterprise and exertions of the gentlemen who discovered the new tract of good land to the northward, in any other way than by giving Mr. Augustus Gregory's Journal entire:—

Colonial Secretary's Office, Perth, Aug. 28, 1848.

SIR,—I am directed by the Governor to inform you, that you have been appointed to direct the exploring expedition about to proceed northwards, on account of the zeal, energy, and enterprising spirit that have been exhibited by you on other occasions, and called into action with credit to yourself and advantage to the public interests. The party under your direction, it is intended, should proceed northward as high as the Gascoigne River.* It is advisable to approach that river from the eastward, about 100 miles from the coast, after proceeding in a north-easterly and northerly direction from the country abreast of Champion Bay, it being desirable that part of your route which lies farthest in the interior country should be first accomplished, in order to avail yourself of the best chance of finding water.

You will examine that river as far as it may be practicable to do, with the view of tracing its course, of ascertaining, if possible, the nature of the bar at the mouth of it, and the question of its being practicable for boats, to what distance from the bar, and the nature of the soil in the vicinity of either bank.

After having examined thus the Gascoigne River, you will proceed in a southerly direction and examine the river, as yet unnamed, about 40 miles farther S., that flows into Shark's Bay, the mouth of which was seen by Captain Grey, and is placed by him at Point Long.

Should you proceed along the sea-shore for any distance, you will pay as much attention as your limited means will allow you to do to the peculiarities of the coast, and of any estuaries, creeks, or roadsteads that may present themselves.

You will bear in mind, that the primary object of this expedition is the examination of a new tract of unknown country for practical purposes, by practical men—

* The Gascoigne River flows into Shark Bay, in latitude 24° 55' S.

that, in fact, the discovery of new land of an available kind for pasture has become a thing to be desired, of paramount importance, and an object in the attainment of which the interests and perhaps the fate of this colony depend.

You will thus conduct your expedition with the view of promoting this principal object to the best of your ability. But it is hardly needful to observe to you, that this chief object may be promoted and attained without neglecting to observe the geographical, geological, and mineralogical features of the country you pass through; its productions, animal and vegetable; and the character, dialects, and customs, to some extent, of the aboriginal tribes you may fall in with. You have been so frequently employed in exploring expeditions, though of minor importance perhaps to the present, that you must be well aware it is no less impolitic than cruel to come into actual collision, wantonly, unadvisedly, and maliciously, with the natives; and, on the contrary, that it is no less humane than politic to leave no angry recollections of white people, where the footsteps of travellers, however "few and far between," must be expected to follow yours.

Should your route, either in proceeding on the expedition or returning, be in the direction of that part of the Irwin River where for the discovery of coal the colony is indebted to yourself and brothers, it would be desirable that you should devote a short time to the examination of the locality where it was first found; to excavation, to some moderate extent, in the vicinity of the veins of coal of most promise; and, above all, to the ascertainment of the fact if coal crops out, or if there be in the soil any indications of it between the place where the mine was discovered by you in 1846 and the sea-shore, in that intervening space of about 38 or 40 miles, or to the northward of it in the direction of Shark's Bay, where Dr. Von Sommer thought the coal-seam of the Irwin might again make its appearance.

In the event of accident, occasioning loss of provisions and beasts of burden, and a necessity arising for a prompt return to the settled districts, you will bear in mind the causes of impediment on the march which proved so disastrous to Captain Grey's party on its return from Gantheaume Bay; the want of vigilance at night manifested in another expedition in the murder of Lieut. Eyre's European companion; and the want of caution, forgetfulness of the nature of barbarians, and the facilities for ambush afforded by a wilderness of trees and jungle, that have led to injuries fatal to life, as in the case of Mr. Cunningham in Sir Thomas Mitchell's expedition, and of two of his companions at another time; and in some instances, as in those of Capt. Stokes and Capt. Grey, that have led to results all but fatal to the explorers and their expeditions; injuries suddenly and unexpectedly inflicted on individuals straggling from the main body of their party, or venturing considerable distances in advance of it.

You are to bear in mind that it might be of some advantage throughout your expedition to keep a register of the depths at which water has been found by you, and of those depths to which you have penetrated in vain for it.

It will be requisite that you should ascertain the course of rivers of any magnitude, and direction of chains of high land, that you may meet with, and follow the same to some extent—at least wherever appearances may lead you to expect improvement of soil, a richer country, or one indicating mineral productions.

In the event of occurrences of unexpected disasters, impediments, and unavoidable accidents, arising from loss of provisions or of horses, or of any injury to the health or strength of the party, rendering it utterly impracticable for the expedition to proceed as high northward as Gascoigne River, your discretion then supplying whatever you may be unprovided for in your instructions, you will explore as far as it is possible for you to do, on your return, the country N. of the settled districts of York and Toodyay; so that something of utility may be accomplished, and the great object for which this expedition was prepared may not be wholly frustrated.

I am further to add that his Excellency's best wishes accompany your party, and that the success of the expedition, and the return of all engaged in it in health and safety, will be hailed by him with very lively satisfaction.

I have the honour to be, Sir,

Your obedient servant,

To A. Gregory, Esq., Perth.

R. R. MADDEN, Col. Secretary.

Perth, November 20, 1848.

SIR,—I have the honour to transmit, for the information of his Excellency the Governor, the following outline of the proceedings of the exploring party to the northward which his Excellency has been pleased to place under my direction. I regret that we have not succeeded in reaching the Gascoigne River, which your instructions for my guidance pointed out as the ultimate object of the expedition; but I trust that our attempts to render the expedition serviceable to the colony have not proved unsuccessful, especially as the result has been the discovery of several fine portions of good grassy land near Champion Bay, which, with the more minute examination of the country in the vicinity which had been previously discovered, will render available a tract of pasturage sufficiently extensive to relieve the present overstocked districts; the estimated quantity of land suitable for depasturing sheep being about 225,000 acres, exclusive of 100,000 acres on the Irwin, the greater portion of which however is better suited to agricultural purposes. The observations I have had the opportunity of making during this journey have confirmed my previous opinion, that, could the party have started in July instead of September, the chief obstacle to our progress—the want of water—might have been avoided; and although there would have been many minor difficulties to encounter, I feel assured that the same zeal and energy which enabled my party to contend so long with the obstacles which opposed their advance to the Gascoigne River, would have ensured their success in a more favourable season. The gentlemen who formed my party have my sincere thanks for their prompt and energetic co-operation on all occasions; nor can I omit to mention the cheerful and trustworthy conduct of private W. King of the 96th regiment. For minute details I beg to refer to my journal and the plans of my route, which I am plotting.

I have the honour to be, Sir,

Your obedient servant,

A. C. GREGORY, Assistant-Surveyor.

The Hon. the Colonial Secretary, &c.

JOURNAL.

Sept. 2, 1848. Started for Toodyay, with Mr. C. F. Gregory and 5 horses, for the expedition to Shark's Bay; bivouacked at Worrilloo.

3rd. Proceeded to Toodyay, where Messrs. L. Burges, J. Walcott, and A. Bedart joined on the 4th, bringing 6 horses with them. Having had the horses shod at Ferguson's, we continued our journey to Mr. Lefroy's station near Bebank, which we reached on the 7th. The following day the cart, with our provisions, &c., arrived, accompanied by private W. King. Having obtained another horse from Mr. Lefroy, on the 9th we left Welbing, with 10 pack and 2 riding horses, carrying 3 months' provisions, &c. Steering N. by W. for the first 20 miles, generally grassy, we entered the extensive grassy plains which occupy almost the whole country between the Moore and Irwin rivers. The rainy season having scarcely ended, we found both water and grass for our horses every night; and, not meeting with any serious impediments, we reached the upper part of the Arrowsmith Brook on the 13th. Here the country improved, and the valleys, in which the stream takes its rise, were estimated to contain about 10,000 acres of tolerable sheep pasture. Early the ensuing day we entered the Irwin plains; crossing the eastern branches of the river, we encamped, on the 15th, on the northern branch, three-quarters of a mile below the spot where the coal was first discovered. The Irwin plains presented a very beautiful aspect, being covered with rich grass and vegetation; the soil is generally good, but most of the grasses being of the annual species, would not afford good pasturage in the summer, and in consequence they are better suited for agriculture; while the open character of the country would render clearing for the plough a matter of little expense. While dinner was preparing, the horses, being herded, suddenly started off at full speed, in consequence of a large stone rolled down by one of the party in ascending the hill. Two of the remaining horses were immediately saddled, and Mr. Burges and myself started to catch them; in about a mile we came up with them at the foot of an almost perpendicular cliff; on seeing us, they started off, and, scrambling up the rocks

like goats, left us far behind; we did not overtake them for several miles, when with some difficulty we captured one, but had the mortification of losing one of the saddled horses in exchange. Leaving the captured horse in charge of Mr. Burges, I followed the rest; caught another after a smart ride of 3 miles, but it was not till I reached the East Irwin that I could again overtake the rest, when, favoured by the steep bank of the stream, I succeeded in securing our truant steeds. It was now dark, and being unable to manage 9 horses by myself, I tethered several of the wildest, and started with 2 of the best for the encampment, 10 miles distant, which, owing to the nature of the country, I did not reach till midnight. Mr. Burges had arrived about an hour previous with the horse first caught. Light showers in the morning.

16th. Messrs. Bidart, C. Gregory, and J. Walcott started to bring in the horses; the rest of the party was employed in repairing damages of the harness, and at 3h. the party returned with the horses. Slight showers in the morning.

17th, Sunday. Light clouds from the S.W.; thunder; rain in the evening. Read prayers.

18th. Left the bivouac 8 h. 15m., and followed upwards the main branch of the Irwin to the N.N.E., through a steep and rocky valley, the sandstone hills in some parts approaching the river, so as to render it necessary to cross frequently with the pack-horses. The very level character of the summits of these hills gives the country the appearance of having been once a plain, through which the valley of the stream has since been worn by the action of water; the upper stratum is a hard red sandstone, resting on a softer rock of a sandy or clayey character, beneath which the shales and rocks belonging to the coal-formation show themselves, lying in unconformable beds, and often at a very high angle. At 9h. 25m. the stream divided into two branches, that to the E. being the most considerable; at this spot the sandstone ceased, and we commenced ascending the granite range, the direction of which was about N.N.W. The soil was poor and stony, producing a little feed for stock, but it could scarcely be made available, as the country is completely covered with thickets of acacia of small growth. At 4 P.M. bivouacked on a small watercourse running through a level grassy flat, bounded on both sides by thickets of wattle.

19th. At 8h. 15m. steered a nearly N. course, through a country of the same description as yesterday; crossed several small gullies trending W., in some of which a little water still remained: at 4h. 20m. halted for the night at a brackish pool in a small gully trending W.

20th. Started at 8h., continuing a northerly course, over a similar description of country as during the past two days, crossing three large gullies coming from the eastward, but apparently near their source. At 3h. 45m. halted on a large stream-bed, with a few brackish or rather salt pools in its sandy channel, which was in some places nearly 100 yards wide; from our encampment we observed a very remarkable peaked hill, distant about 20 miles, and from its outline conjectured it to be composed of the same vein of trap-rock as that which forms similar ranges farther to the eastward.

21st. The scarcity of water and the very level appearance of the country to the northward of our bivouac, added to the general denseness of the thickets of acacia and cypress, rendering a continuance of a N. course inadvisable, we steered N.W. from 8h. 30m. till noon, when we ascended a scrubby sand ridge, from which we had an extensive view; neither hill nor valley could be discovered to the N., E., or W.—nothing but one immense sea of dense thicket of acacia and cypress was visible in these directions; the course was therefore changed to W., and continuing it without much alteration over a succession of low ridges of drifted sand, the valleys being filled with dense thickets, until 6h. 20m., when the approach of night compelled us to bivouac in a small patch of gum-forest, which also afforded a few scattered tufts of grass for our horses. Although this was the lowest spot passed in a distance of more than 10 miles, it was so completely dried up and parched, that a search for water was fruitless, even by digging; the scanty allowance of very brackish water in our kegs was therefore much relished by the party.

22nd. The night having been cloudy, and a strong breeze preventing any dew, our horses were not much refreshed; we however started at 7h. 45m., and steering nearly W. till 3h. 15m. through a succession of dense thickets, high scrubs, and

thorny bushes, we entered open sandy downs, and changed the course to S.W., with the intention of making the Hutt River, should we not find any water nearer, when, almost hopeless of procuring this essential element before the next day, we unexpectedly came to a native well in the centre of the sandy plain; here we bivouacked at 5h. 40m., but, from the loose sandy soil in which the well was dug, we could not obtain more than about $2\frac{1}{2}$ gallons of water for each horse, the sides of the well continually falling in. Strong breeze from the N.W. and several light showers in the evening and night.

23rd. Having completed watering the horses, we left the well at 9h. 30 m., and steering about N.W. over undulating sandy downs, covered with coarse scrub and patches of dense thickets, at 2h. 15m. entered a small gully trending N.W. The country improved, but was so thickly clothed with wattles as to render travelling difficult; a few patches of grass were seen in some small watercourses, in which a little water remained. At 4h. 40m. bivouacked on a large gully trending northwards, with several small pools of water in a rocky bed of gneiss, containing numerous small garnets. Strong breeze from the N.W. and slight showers.

24th, Sunday. Although the feed for the horses was not very abundant, yet the long marches they had encountered the last few days made it expedient to give them a day's rest to recruit their weary limbs. Read prayers. Strong breeze from the N.W. and slight showers during the day.

25th. Started at 8h. 27m.; passed over poor stony hills of granite formation and producing a little grass in tufts—the wattles growing so close together as to render travelling difficult and tedious. At 10h. 45m. came on a large stream-bed, which had scarcely ceased to run; the channel was 50 yards wide, the bed steep and rocky, and, where crossed, ran over a dyke of trap-rock, the water slightly brackish and in long shallow pools, with samphire on the banks. This stream must be the Murchison River, as no other was passed for 30 miles to the northward; the effects of violent floods were visible, but it did not bear the character of a stream rising at any great distance inland, nor did the nature of the gravel and sand brought down by it indicate a rich soil on its upper portion, as I did not see anything besides fragments of silicious rock and garnet sand. The valley through which it runs appeared to be 5 or 6 miles wide, extending 20 miles to the eastward, backed by sandy plains on both sides; a few patches of grass appeared in the lower parts of the valley; westward it seemed to contract and turn to the S.W., flanked by steep flat-topped hills of sandstone, resting on granite rock. Continuing N.N.E. up a small valley, we passed through wattle thickets till 1h. 40m., when we again ascended the level sandy table-land or plains, and changed the course to the N.; the scrub increased in density as we proceeded. At 4h. 25m. halted for the night in a patch of good grass, where the thicket had been burnt off by the native fires; the sandy nature of the soil rendered the search for water unsuccessful; we therefore contented ourselves with the allowance of one pint each.

26th. Left the bivouac at 7h. 15m.; course N.; the country more open; 9h. 25m. came on a large native well of good water in a slight hollow trending westward; having watered the horses and filled the kegs, continued our journey over sandy plains, covered with short coarse scrub; many hummocks of loose sand, covered partially with scrub, lay on each side of our track. At noon passed the last sandy ridge; before us lay an immense plain, covered with thickets, and not a hill or valley could be observed—the country seemed to settle into one vast level of dense and almost impenetrable scrub or thicket. At 1 p.m. entered it, and continued our route through it; although the bush-fires, which had burnt some large patches, greatly assisted us (4h. 15m.), not finding any grass, we steered W., but at 5h. 15m. were compelled to halt for the night in a dense thicket, without a single blade of grass or even scrub of any kind which could afford food for the horses; water it was hopeless to look for; and after a supper of raw bacon, damper, and a pint of water each, we retired to rest.

27th. At 7h. A.M. set out on a N. course; at 8h. 5m. finding the thicket almost impassable, I ascended a cypress-tree, where a most cheerless view met my sight to the N., E., and W.; not a break was visible—nothing but thicket in all directions, with scarcely an undulation of any kind; the view to the N.W. was most extensive—nearly 20 miles of thicket could be seen, with a surface as level as the sea. Not considering it prudent to proceed onwards, the thicket being too

dense to advance without the greatest difficulty, the saddle-bags being almost torn to pieces, and the horses quite worn out with continual exertions in dragging their packs through the thickets, we were compelled to return to the well passed yesterday morning. The country seen to the northwards was of too flat and sandy a character to give any hope of finding water or grass—and without these requisites, it would be incurring great risk of losing the horses, and of course defeating the object of the expedition; therefore, taking advantage of the partially cleared tracts of yesterday, we reached the watering-place at 4h. 30m.

28th. This day we employed ourselves in repairing our pack-saddles, which it was found necessary to restuff, as they had been padded with coarse rushes; the saddle-bags had been torn to pieces, and the repairs of these required more time than could be afforded in an evening's bivouac.

29th. Started at 8h. 35m.; pursued a general course of 310° , gradually ascending the sandy downs on the N. side of the valley for 3 miles; it then turned to the N. of W., and we again descended, and found the bottom occupied by a narrow samphire flat, 50 to 100 yards wide, over which the water runs during heavy rains, but it was now dry, and in some parts covered with a thin crust of salt; 11h. 26m. passed a native well of slightly brackish water, amongst loose blocks of red sandstone; a small well was passed at 11h. 50m.; the samphire flat then changed to a small sandy channel, among large blocks of sandstone belonging to the coal-formation: in one place the slate also cropped out. Abundance of brackish water lay in small pools along the course of the stream-bed, which at 1h. changed its direction nearly W.; we followed it through a scrubby valley, with high hills on both sides, till 4h. 45m., when we bivouacked just below the junction of a small gully from the northwards, with a very remarkable sandstone hill about three-quarters of a mile S.; below this spot the valley trended to the S.W., and was bounded on the N.W. by flat-topped sandstone hills.

30th. Not being more than 10 to 15 miles from the sea, I steered N. 330° E. mag. Starting at 8h. 5m., and having ascended the high land, passed through a thick line of wattles and dwarf gum, growing on the eastern face of the limestone range, which forms the high barren range along this part of the coast. The country was covered with thick scrub, and some patches of gum and wattle thicket; about noon it was more open, and ascending an elevated sandy ridge, saw apparently a high range of hills extending N.N.W. as far as Shark Bay, and terminated by a very abrupt and detached hill; but the excessive refraction caused by the heated and nearly level plain which intervened more than doubled their real height. We descended gradually over a succession of sandy hills or ridges till 2h., when the lowest part of the plain was reached; we found it occupied by a small patch of spear-wood; the soil was hard dry clay, but on proceeding a little farther, we found a patch of moist ground, encircled by a ridge of sand; at one foot deep we found water, but in such small quantity that we could only obtain sufficient for ourselves, and should have had to wait at least two hours to have given each horse only one gallon. Proceeding onwards, in hope of finding a more plentiful supply, we found the country became drier and full of circular hollows, filled with fine clumps of green wattle and a little grass; in one of these we bivouacked at 5h., and dug 6 feet for water in red sand, but without any appearance of obtaining it even at double that depth.

October 1. This morning started at 7h. 55m., and steering N.W., in hope of finding water, at 8h. 40m. came on dense thickets of wattle, which extended at least 7 or 8 miles farther N.; we therefore turned W. to avoid them; at 9h. 30m. changed the course to 300° mag., and with great difficulty forced our way for 2 miles to a narrow strip of open ground; 40m. P.M. arrived at the foot of the range of hills seen yesterday—found them to consist of limestone and sand, covered with thick scrub; between the hills were many nearly circular hollows filled with thickets of wattles; although the bottoms of the hollows were at least 50 feet below the lowest part of the ridges around them, they were quite dry, and afforded no hope of water even by digging; the country northward appeared even less likely to afford a supply, so much required, as it seemed to consist wholly of limestone and loose sand, without swamps or watercourses; the nearest spot at which we could hope to find it in this direction was the S. part of Freycinet Harbour, distant, according to the charts, about 30 miles, and great doubt existed of the accuracy of it in this position (error having been found in some other parts of the coast-line); nor

was it certain that we could find water on the coast, in which case the loss of our horses would be almost a necessary consequence, several of them showing extreme fatigue. The circumstances of the case required a prompt decision; I therefore ordered an immediate return towards the last spot where we had seen water. The whole party felt convinced of the necessity of returning, though with the greatest reluctance to do so, as it seemed to put an end to almost every hope of reaching the Gascoigne River. We followed our route back, and halted at 5h. 30m. in a wattle thicket.

2nd. Left our uncomfortable bivouac at 7h. 30m.; steered S.E. Finding the horses scarcely able to travel from want of water, I took the strongest and rode over to the spot where we had obtained a little on the 30th September, to dig wells and have a supply ready, if it could be obtained in sufficient quantity; at 11h. arrived, and found the wells we had dug nearly dry; by opening several trenches down to the rock, which lay about $1\frac{1}{2}$ feet below the surface, the water oozed in, and when the party came up, at 12h., there was about a gallon for each horse; taking off the packs, we commenced watering: 4 horses had received their small allowance, when it came to my horse Bob's turn; after drinking his share, he marched off at a smart pace, which somewhat surprised us, as he started in the direction of what we had supposed to be nothing but a tea-tree scrub; on following him, we found the horse drinking at a small shallow pool of water in a hollow in the clay. This was a very fortunate discovery, as the trenches filled with water so slowly that a full supply could not have been obtained that night, and the horses had been 65 hours without water.

3rd. This morning Mr. Burges and myself started at 7h. 30m. in a north-easterly course, to ascertain the practicability of proceeding in that direction, taking two of the strongest horses. After riding four hours over an open, scrubby sand-plain, with circular valleys, we again fell in with thickets of wattles so dense that, although burnt by the native fires about four years previous, they would have been impassable for the packhorses; but, favoured by this circumstance, we penetrated the thicket in a N.N.W. direction for about 12 miles. From one small sandy ridge we had an extensive view, but of a most discouraging nature; the whole country was one vast plain, covered with dense thickets and scrub as far as the eye could reach, except to the W.N.W., where rose a high and barren ridge, which would not have been visible but for excessive refraction, as it must have been more than 25 miles distant. The plain was still dotted over with the remarkable circular hollows or valleys, which, by their extreme dryness, indicated a great depth of sandy soil, incapable of retaining water on the surface even for a short time, or any probability of our obtaining it by digging. We turned in disappointment towards the encampment, scarcely extricating ourselves from the thickets before it became dark. Having gained the sand-plain, we continued our return for several hours, steering by the stars, hoping by a night-march to avoid the scorching effects of the sun, which at this season renders travelling over an extensive sandy plain very fatiguing. Having been more than 11 hours in the saddle, we halted for the night.

4th. Started with the dawn, and pushing our tired and hungry horses over the plain as fast as circumstances would admit, arrived at the encampment before the heat of the day became excessive. During our absence two more water-holes had been excavated, and sufficient water obtained for the horses, but from the great evaporation it did not seem likely to last longer than three or four days: the hardness of the sandstone precluded our sinking the wells more than $1\frac{1}{2}$ feet. The extreme aridity of the country—the absence of water in consequence of the sandy nature of the soil, which renders it impossible that watercourses should exist—the dense and almost impassable nature of the thickets of acacia and melaleuca of small growth, and the heat of the climate—all tend to prove the fallacy of attempting to explore this part of the colony, excepting during the wettest of the winter months. Under the existing circumstances, I considered it my duty not to lead the party into a position from which it would most probably be impracticable to extricate ourselves without at least losing some of our horses; and even difficulties of a more serious nature might arise, which would prevent the more complete examination of the imperfectly known country to the southward of our present position, more especially as a successful advance to the northward seemed impossible.

5th. Left the encampment at 8h. 10m.; steered N. 135° E. mag. over sandy country, covered with coarse scrub; at noon passed a narrow strip of wooded grassy land, the soil being limestone and red loam. The country again became scrubby, and, descending an open valley, came on a small watercourse at 1h. 5m., trending S.; followed it S.S.W. At 2h. 15m. passed our bivouac of the 29th September, and turning S.W. along the stream-bed, at 4h. came on the right bank of the Murchison River, running through wide grassy flats, the stream forming large pools, some of them more than a mile in length; but, with the exception of the flats on each side the bank, the country is poor and scrubby, destitute of trees, and the hills high and rocky, consisting of red sandstone, those to the W. capped with limestone.

6th. The horses being much fatigued and nearly starved, having subsisted chiefly on scrub for the last two days, we determined to rest them for a few days, while we examined the river towards its mouth. I started with Mr. Bidart, and tracing the stream downwards to the S.W., reached the sea after a ride of six hours. Excepting the flats and a narrow strip of land on each side, the country was very indifferent, the hills being composed of sandstone and sand, covered with coarse scrub and a gigantic species of grass, the leaves of which, instead of affording food for stock, were a source of great annoyance to our horses, being armed with sharp thorny points, and was somewhat appropriately called "bayonet grass" by the party. The tide flows about five miles up the river, when it is obstructed by some slight rapids: although it seems shallow, and full of rocks and islands, I think it is navigable for small boats. Above the rapids the river is a succession of long reaches of water about 100 yards wide, and wide flats covered with reeds, the roots of which seem to form an important article of food with the natives. Many springs were seen on the left bank, but few on the right, the water of which was of excellent quality. After making observations of the bar, which appeared to be practicable for whale-boats in moderate weather if the wind be S. of W., we returned along the S. shore of the estuary, which is about 1½ mile long and ½ a mile wide; it does not appear to be of any great depth. My horse being quite knocked up, it was dark before we could reach a spot where we could obtain water and grass; having come to a convenient place, we bivouacked under a large overhanging rock, as it promised to be a wet night.

7th. At 6h. we were in our saddles, but owing to the rocky nature of the country did not arrive at the encampment till 30m. P.M. During our absence the party had been successful in fishing and shooting; a savoury mess of cockatoos, swans, and ducks, with fried fish, proved a welcome change to us, after living so many weeks on salt meat and damper.

8th. *Sunday.*

9th. The valley of the river being rocky and impassable above the camp, we crossed to the left bank and ascended the sandy table-land; steered about S.E. from 7h. 47m. to 11h., when we came on the stream in a deep valley formed by almost perpendicular red sandstone cliffs from 50 to 200 feet in height, broken at short intervals by enormous fissures (their general direction W.N.W., and nearly at right angles with the river), which time, with the action of water, had worn into impassable ravines, frequently extending more than ½ a mile back from the river, and rendered travelling very tedious and unsafe, as it was requisite to avoid the thick scrubs covering the higher land. The course of the river now changed to nearly S., and preserved the same rocky and unapproachable character till 5h., when a break in the cliffs enabled us to descend into the valley, although with some difficulty and danger to the horses, which had to slide down the steep rocks at the risk of breaking their necks, which would have been the almost certain result of a single false step; but the descent being accomplished, they were rewarded by an abundant supply of grass and water, the latter from a large spring at the foot of the cliffs.

10th. While breakfast was preparing, Mr. Burges and myself examined the right bank of the river, and after a short search, found a practicable ascent to the top of the cliffs, and having cleared a way through the thicket of melaleuca on the bank of the river, returned to breakfast. At 7h. 50m. commenced ascending, and at 8h. 30m. reached the summit of the rocky hills, and steering about S.E. through a succession of thickets, rocks, yawning chasms, sand-hills, and scrub, we attained to a fine grassy flat at 30m. P.M. The bed of the river here quite changed its

character, the sandstones giving place to granite gneiss, with dark trap dykes intersecting it in a N. and S. direction, the dip of the strata being to the W. at a very high angle, at times almost perpendicular.

11th. As this appeared to be a good spot for the formation of a *dépôt*, while we examined the upper portion of the Murchison, I proceeded up the river in company with Mr. Burges, leaving the rest of the party to guard the camp and attend to the horses. After one hour's ride, we came on our track where we crossed the river on the 25th September, the general course of the stream-bed being E.N.E., its channel averaging 100 yards in width, full of rocks, small trees, and sand-banks, with many shallow brackish pools of water, with the exception of one, which was both wide and deep, where we halted for two hours to rest the horses; few of the pools seemed likely to last through the heat of summer. At 1h. we came on a party of natives, five of whom came up to us, following us for some distance. As they seemed to prefer mimicking our attempts to speak the York dialect to using their own, we could not obtain much information; they carried kylie and dowaks, but had left their spears and shields with the rest of their party, who did not make their appearance. At 3h. passed several ridges of red sandstone rocks, the strata dipping to the E.N.E. at an angle of from 20° to 60° . The granite rock entirely disappearing, the country became quite level, and covered with one universal thicket of acacia and cypress, except the very slight depression which formed a shallow valley about three miles wide, through which the river runs in a deep channel from 80 to 100 yards wide in ordinary seasons, but when in flood must exceed 300 yards, and the rise of the water, judging from the rubbish drifted up in former years, must exceed 30 feet. The valleys did not seem to be more than 100 feet below the general surface of the country (which was quite level), filled with a dense thicket of wattles; a narrow strip of large gum-trees, growing in grassy flats close to the river, marked the course of the stream. At 5h. we halted for the night by a small pool of fresh water in one of the back channels of the river, the pools in the main bed being all brackish.

12th. Started at 6h. 35m., following the river, the general course being N.N.E.;* no change was observed in its character. At 11h. 20m. halted to rest the horses, and again started at 1h. 40m. At 3h. 40m. came on a large party of natives at a fresh-water pool; five followed us some miles and were not to be satisfied until we had made an exchange of part of a handkerchief for a quantity of "noolban," some dowaks, and dabbas, some of which we accepted as a token of our friendly intentions. The stream-bed turned E., and we followed it until 6h., when we halted for the night, having the good fortune to find a little fresh water by digging in the sand in the bed of the river, the pools being all brackish.

13th. At 6h. 15m. we were again in our saddles, and continued our journey up the river—the general course N.N.E. In vain we looked for some rising ground or hill from which we might obtain a view of the country, but the same sandy level, covered with dense thickets of wattles, still met the eye till 11h., when we observed a low sandstone cliff forming the eastern side of the valley. In this direction we steered, and after pushing through thickets of wattle growing on stony ground, with small patches of salsolaceous plants, we arrived at the foot of the cliff, which was about 60 feet in height, of white sandstone, full of rounded quartz pebbles. The top was nearly on a level with the general plane of the country, which was of a most cheerless aspect. The valley of the river trended to the N.N.E. for 8 or 10 miles, then to the E.; the width appeared about 5 miles, and one dense thicket of wattles seemed to fill the entire space. The rest of the country was, without the slightest exception, level in the extreme, covered with one universal thicket of acacia and cypress, the latter indicating the sandy nature of the soil. As no appearance of change in the character of the country within 20 or 30 miles was visible, and we had only two days' provision left (not having expected the stream to extend so far), and the camp at 60 miles distant, we were obliged to leave the farther examination of the river to some future explorers; but we regretted it the less as, from the nature of the gravel and sand brought down by the stream, there seemed great probability that it takes its rise in large salt marshes similar to those known to exist 100 miles E. of the Irwin, if it does not actually drain them, as the general trend of the most northerly marshes seen was

* E.N.E. ?—Ed.

in the direction of the upper part of the Murchison. Under these circumstances, we returned to our bivouac of last night, reaching it at 5h. 40m.

14th. Started at 6h. 25m., and retracing our route down the river, came to our bivouac of the 11th at 5h. 5m., without any incident worthy of notice, but surprising three or four natives asleep in the bed of the stream; they were of the party seen on our route up the river.

15th. *Sunday*. Resumed our journey: passed two parties of natives—a few of them followed us some distance, and having overcome their first surprise, commenced talking in their own language, which, as far as we could understand it, had great affinity to that spoken by the natives in the York and Toodyay districts. After a smart ride of seven hours we arrived at the encampment, found the rest of the party all well, and the horses much improved by their few days' rest.

16th. The two horses we had ridden up the river requiring a day's rest, which was also acceptable to Mr. Burges and myself, we remained at the camp and made preparations to move on to the Hutt River the next day. Mr. Walcott brought in some specimens of galena, which, on farther observation, proved to be abundant.

17th. Leaving our encampment at 9h. 10m., we steered a southerly course, passing over a succession of low granite hills, thickly covered with acacia, to the exclusion of almost every other kind of vegetation, save a few scattered tufts of grass. At noon entered the sand-plains which occupy the high lands in this district; observed a patch of grassy land bearing S.W.; proceeding in that direction, at 1h. came on it, but found it to be a very small spot of grassy granite country, encircled by sand-plains and scrub. Continuing our course, at 2h. 5m. struck a small stream-bed trending W.S.W.; the valley in which it runs is bounded on both sides by sandy hills, covered with scrub; some patches of grass and wattles occupied the lower ground wherever the granite rock showed itself; tracing the stream-bed downwards, we found many brackish pools. At 3h. 45m. crossed the left bank—found it running, but brackish; and at 4h. 20m. we bivouacked at its junction with the Hutt River, which was here about 10 yards wide, with narrow grassy flats on both banks. The hills are of sandstone and sand, producing little besides scrub.

18th. Started at 7h. 50m., steering N. 140° E. mag. up the valley of the Hutt, which gradually widened and improved, the hills being grassy for an average distance of two miles back from the stream, of granite formation, and thinly sprinkled with wattles; behind the grassy land the country rose into sandy plains, covered with short scrub. At 9h. 20m. crossed to the left bank; the river trended to the eastward. At 11h. 10m. sighted King's Table Hill, bearing S. mag. We then descended into the rich and grassy valley of the Bowes River; this we traversed till 4h., when we bivouacked in a small stream tributary to the Bowes. As the country passed over this day had not been previously examined, we were much pleased to find it equal to the best land on the southern branch of the Bowes, visited by the Surveyor-General and myself on former occasions.

19th. Messrs. Burges, Bidart, and myself, rode down the Bowes to examine the country, and found it generally of good grassy character, suitable for sheep; the bed of the streams being filled with broad-leaved reeds, seems to indicate an abundant supply of water in the dry season, but the pools were very small, and the water all brackish, not even excepting the running streams. The hills are of gneiss, with garnets and trap-rock, the latter producing excellent grass of various kinds, the most conspicuous of which is a species of kangaroo-grass, but of a less woody character of seed-stalk than that found in other parts of the colony. The extent of land fit for sheep-feeding on this stream (it can scarcely be called a river), I should estimate at 100,000 acres, and Mr. Burges considered it capable of feeding about 17,000 sheep. The existence of garnets, iron pyrites, and a mineral resembling in many of its properties plumbago, specimens of which were found in the gneiss of this district, seems to indicate a metalliferous formation, and I have little doubt a further search might develop many at present hidden sources of wealth. Near the coast we fell in with some natives (four men and five women), who were very friendly, but from their peculiar nature we were unable to accept of their civilities.

20th. Started with Messrs. Burges and Walcott to examine the upper part of the Buller River; after passing over the country examined by Lieut. Irby and

myself in December, 1846, we crossed the granite ridge which divides the valley of the Buller into two nearly equal portions. We found the land on the left bank of the eastern branch of very good and grassy description, consisting of a range of granite hills about 10 miles N. and S., and 2 miles in width; to the E. of which the high sandy and level plains commence in an abrupt line of sandstone slopes and hills. Halted for the night in the E. branch of the Buller, with water in small pools and abundance of grass for our horses.

21st. Continued the examination of the Buller valley down to the spot where I bivouacked on the river in December, 1846; then followed up the stream for 7 miles, where we dined, and then steering W.N.W., arrived at the camp at 6h. 30m. We estimated the valley of the Buller to contain about 10,000 acres of good grassy land, and 30,000 acres of inferior feeding country; the good land is much broken into patches by that which is of indifferent quality. Timber is here, and also on the Bowes, very scarce, and the little that exists is very indifferent and small.

22nd. *Sunday.* Messrs. Bidart and C. F. Gregory walked to the hill which lies $\frac{3}{4}$ of a mile W. of King's Table Hill. The rock of which it is formed appeared to belong to the coal formation, as thin seams of black shale were seen in the rocks of which the lower strata of the hill are composed; but the natives making their appearance, it was not considered prudent to remain geologizing among the cliffs. Returning towards the camp, the natives followed for some distance, and on descending a cliff the women commenced pelting the party with stones, apparently in revenge for the refusal of certain courteous invitations, which perhaps are the greatest marks of politeness which they think it possible to offer to strangers.

23rd. Left our encampment at 8h. 5m., and steered 150° mag. over granite hills producing wattles and good grass. At 9h. 40m. crossed the S. branch of the Bowes, after which the country was not so well grassed, except in the valleys. The lower hills were of granite; the higher, red sandstone of tabular form. At 11h. the country became more sandy and covered with short scrub, gradually rising to the S. At noon we obtained the high table-land; crossed two scrubby valleys bounded by sandstone hills, in the first of which the black shale peculiar to the coal formation showed itself, with a slight dip to the S. At 1h. 50m. crossed the Buller in a rocky channel with reedy pools, apparently of permanent character. The land improved and became grassy, and ascending the hills on the left bank, passed Peak Hill at 2h. 50m.; this is the highest part of the range between the Buller and Chapman. From this we steered S., down a small grassy valley; the hills with granite bases and sandstone table summits, with excellent grass, and thinly wooded with acacia and a few York gums. At 3h. 15m. bivouacked in a patch of excellent grass with water in small quantities.

24th. A violent thunder-storm during the night was followed by a rainy and misty morning; the weather clearing up, we walked down to the Chapman River, which was running in a sandy channel with small shallow pools. The land on the bank of the stream was very indifferent and sandy for about a mile, when it rose into granite and sandstone hills, covered with excellent grass.

25th. Accompanied by Messrs. Burges and Walcott, I proceeded to examine the country to the eastward of our camp. Starting at 7h. 20m., steered E. over grassy hills, with granite bases and table summits of red sandstone, the latter rock forming but a poor soil, with scanty feed and scrub; crossed several small gullies running into the Chapman. At 10h. passed a large sandy hill, covered with short scrub, and halted at 11h. in a grassy gully in the bottom of a wide scrubby valley. At 45m. P.M. again resumed our journey, and ascending the sandy downs, at 1h. 15m. gained the highest ridge. Before us lay the valley of the Greenough River. The white and red sandstone cliffs, which bound the valley on the S.E., were distorted by excessive refractions, which, as we crossed each sandy ridge, changed their appearance, sometimes assuming the appearance of islands with high rocky shores, then like reefs with heavy breakers, followed by high cliffs and grassy hills; but as we approached, they assumed their true character of low rocky hills and cliffs, scarce exceeding 200 feet in height, and generally covered with dense thickets of acacia, growing on an otherwise barren stony soil. At 3h. 30m. came on the right bank of the Greenough River; the bed was quite dry, and had no appearance of having run since the winter of 1847. Following up

the stream-bed to the N.E., passed some shallow pools of salt water; and at 4h. 45m. observed the black coal shales at the bottom of a deep cliff, which formed the left bank of the river. At 5h. halted for the night, obtaining fresh water by scraping in the sand by the side of a pool of salt water; we also found sufficient grass for our horses on the bank of the river.

26th. At 7h. 10m. left our bivouac, steering N. 120° E. mag. towards a high sandstone cliff, which, after a ride of $\frac{3}{4}$ of an hour through thickets of acacia, we ascended; but the view was not satisfactory, as thickets and scrubs extended over the whole of the country. We, therefore, returned to the river, and followed it downwards to the S.W. by S. At 11h. 30m. found some fresh water in a small water-hole in the bed of the river; halted till 1h. 50m. to refresh the horses. The river turned S., and at 2h. 27m. was joined by a small gully from the W., and coming from a grassy valley. As it had run during the last winter, it quite altered the character of the river for $\frac{1}{2}$ of a mile, filling the pools with water, and giving the grass and trees a freshness, which formed a most striking contrast with the brown and parched appearance of the rest of the valley. At 3h. 55m. altered the course to 210° mag.; the country improved, many patches of grassy land appearing in the valley, and the country became more rocky. At 5h. 30m. crossed to the left bank, and found the river running with many large pools of water, some more than $\frac{1}{2}$ a mile long and 80 to 100 yards wide. The water was slightly brackish, being this year supplied principally by springs, taking their rise in the new red sandstone formation. We then followed the winding course of the river S.W. amongst high hills of sandstone, many of which were covered with excellent grass, though the country was not generally good. At 6h. 20m. halted for the night on the right bank of the stream, in a narrow but rich grassy flat; heavy rain in the night.

27th. Started at 7h., and steering an average course of W. by N., ascended the high land on the N. bank of the Greenough. For the first hour the hills were of red sandstone, very steep and rocky, producing little but coarse scrub; some of the valleys and lower hills were well grassed; the country then improved, the hills being of the coal formation, and the limestones forming very rich and grassy hills. At 9h. 40m. the granite and gneiss formed the bases of the high sandstone-topped hills, which rose about 500 feet on each side of the valley. At 10h. 15m. crossed to the left bank of the river, and re-crossed to the right at 11h. 10m. The lower parts of the valley were not so rich or well grassed as the hills, but would afford excellent summer feed for sheep. Having dined, and given our horses an hour's feed on the rich grass which grew in the bed of the river (which here turned to the S.), we continued our route. After an hour's ride over rich grassy hills, reached the foot of Wizard's Peak. Here we left our horses and ascended the hill; arrived at the summit, to our great surprise, instead of the scrubby and sterile country described by Captain Stokes of the 'Beagle,' beautiful grassy hills, stretching from N. to S.E. met our view to the extent of about 20,000 acres; had it not been certain, from bearings to Mount Fairfax and other hills, that we were on Wizard Peak, I should have suspected its identity. Leaving Wizard Peak at 2h. 30m., steered N. along the western foot of the grassy range. The country to the E. consists of grassy hills of limestone, rich in fossil remains of wood and shells, with an occasional granite hill producing coarse grass or short scrub; to the W. the country was more level, but less grassy, and in many parts scrubby. We fell in with some of the natives, who appeared friendly disposed. Crossed the Chapman at 6h. 5m., and arrived at the camp at 7h. 15m.

28th. Left the camp at 7h. 40m., steering N.W. Made the stream previously called the Buller at 9h.; followed it downwards to the S.S.W. till 11h., when it became evident that, instead of being the Buller, it was the N. branch of the Chapman. The land on its banks was not generally good, although some fine patches of grass were seen. Leaving the stream, we ascended Moresby's Range; the valleys and sides of the hills were covered with fine grass, and the sandstone rocks were rich with fossil remains of shells and wood. With some difficulty we discovered the western face of the hills; after which, an hour's ride over a scrubby plain brought us to the mouth of the Chapman River, running strongly over a ledge of limestone rock into the sea. We crossed the river, and rode over to the usual landing-place in Champion Bay; we then returned to the Chapman, and halted for the night.

29th. Two of the horses having broken from their tether during the night, we were obliged to put the three saddles on the remaining horse, and proceed to track the stray horses; after tracking them about 2 miles, we found them on their way back to the camp. We then rode along the western foot of Moresby's Range, and ascended Mount Fairfax; after taking sketches and bearings, we steered for the encampment, and reached it about 2h.

30th. Messrs. Burges, Walcott, and Bidart, rode out this morning to examine the grassy hills on the S. side of the Chapman River, and on their return reported the country to be of a generally good grassy character.

31st. Left the encampment at 8h., and steering 200° mag. over alternately grassy and scrubby hills of granite sandstone, crossed the Chapman at 9h. 40m. Our course then lay nearly parallel to the river till noon; the land on the river was indifferent and thinly grassed, but rose into good grassy hills about a mile from the river. We then entered a level scrubby plain, extending from the Victoria Range to the sea. At 12h. 30m. altered the course to 175° mag., and at 1h. 5m. to 139° mag. At 1h. 15m. the plain became grassy, and the soil good (with the exception of a few patches of York gum, the only trees were wattles), and by a rough estimate contained about 8000 acres of good grassy land. On the N. bank of the Greenough River, which we reached at 3h. 15m., the channel was about 79 yards wide, but dry and sandy; nor did we observe any sign of its having run during the past winter. A little below where we struck the river, it turned to the S.E.; following it in that direction till 3h. 45m. we bivouacked, obtaining a scanty supply of water by digging in the sand. Shortly after halting, a party of about 30 natives came up, and appeared friendly; they told us that there was a fine spring at some distance to the westward, but we could not obtain any other useful information, as their dialect differs considerably from that spoken in the settled districts, although some few words are the same. They encamped a short distance from us, and in the night stole our frying-pan to dig a well, but returned it next morning before the theft was discovered.

Nov. 1st. At 7h. 10m. resumed our course S.E., along the eastern side of the grassy plain. The scrubby hills gradually approached on each side, and at 9h. 30m. the good land terminated, the estimate being 2000 acres on the S. bank of the Greenough River. The country then became sandy, producing little besides scrub and a few banksia trees. At 10h. passed about 1 mile W. of Mount Hill; passed a small pool of water in a watercourse trending S.W. At 50m. P.M. altered the course to 170° mag.; at 3h. entered a thick forest of York gum; at 3h. 25m. changed the course to 130° mag., and entered a grassy flat extending to the Irwin River, which we reached at 3h. 55m., and following it upwards till 4h. 15m., bivouacked on the left bank in a large flat. Shortly before reaching the river a large party of natives came up with us, after tracking the horses for some distance. 70 or 80 men came to the bivouac, and, with the exception of one man who shipped a spear, making a demonstration of throwing it at us, they evinced a desire for the more peaceable amusement of eating damper and fat bacon. A few of the natives spoke a little English, having been for a short time in the settled districts. At sunset they retired to the other side of the river, and all appeared quiet, when my watch commenced at half-past 10 P.M.; but at midnight I detected a native crawling up amongst the thick grass about 10 yards from the back of the tents. He lay quiet till I almost turned him out of his hiding-place with the muzzle of my gun, when he took to his heels, but I did not consider it prudent either to fire at or capture him.

2nd. The natives being too numerous to allow any of the party leaving the camp to examine the country around without incurring greater risk than seemed prudent, we left our bivouac at 7h. 45m. and steered N. 170° E. mag. over sandy hills, covered with short scrub. After 2 hours the country became nearly level, with small patches of swampy ground, which would be very wet in the rainy season, but was at present quite dry; the rising grounds were sand, covered with short scrub, with a few scattered banksia trees. At 5h. 40m. struck the left bank of the stream which has been considered to be the Arrowsmith River of Captain Grey, though I have now some reason to doubt its identity. The banks of the stream are sandstone and sand, and the channel scarcely 3 yards wide, with a strip of grassy thicket 20 yards in width along the stream, which is the only feed near the river, as the plain through which it runs produces nothing but scrub and banksia,

with a few grass trees. We bivouacked a short distance below the spot where we first struck the stream, which was still running.

3rd. Our horses having but a very scanty feed at this place, we moved down the stream to obtain better grass for them before crossing the sand-plains which lay to the S. After following the stream W. for 2 hours, encamped in a small grassy flat, below which the stream ceased to run, the water being wholly absorbed by the sandy soil, which has a substratum of limestone of recent formation.

4th. Accompanied by Mr. Bidart, rode to the westward; passing over sandy plains and ridges for 4 hours, came to the beach, which we followed northwards for 3 hours, hoping to meet with the mouth of the stream on which our camp was placed. Not perceiving any signs of it we turned to the E., and after an hour's struggle through a thick jungle, we came on a wet grassy flat, on which the stream seemed to be lost. Steering a general course of S.S.E., we arrived at 9h. 10m. at the camp, after a ride of $13\frac{1}{4}$ hours, and the country traversed almost wholly worthless sand and scrub.

5th. *Sunday*. Remained at our encampment to rest the horses. Read prayers.

6th. Leaving our encampment at 7h. 10m., we steered N. 170° E. mag. along the eastern limits of the low scrubby limestone hills, which extend along this part of the coast. To the E. the level sandy plain extended from 8 to 10 miles, and then rose into high sandstone hills, covered with scrub and destitute of trees; but at the junction of the limestone and sandstone formation, along which lay our route, were several small lagoons and swamps of fresh water, with grassy margins. At 10h. altered the course to southward; the line of swamps trending to S.S.W., we entered the level sandy plain. At noon passed a shallow pool of rain water in a slight depression of the plain, and shortly after crossed two small watercourses trending W.; a little brackish water remained in the deeper portions of their channels. The effect of refraction on this level country, when heated by the midday sun, was so great as to cause many of the low sandy ridges to appear like large lakes and inlets of the sea, as in some instances the more distant hills were obscured by its effects. At 2h. 45m. we reached the sandstone range, and at 3h. 5m. halted in a small patch of grass around a native well of good water, which had the appearance of retaining water throughout the summer.

7th. At 7h. 20m. resumed our journey southwards, over high and sometimes rugged ranges of sandstone hills; passed a short distance to the E. of Mount Peron and Lesueur. The valleys were wooded with red and white gum of large growth, but the hills produced little besides coarse scrub. At 2h. 20m. passed a large mound-spring, and at 2h. 45m. crossed the Hill River of Captain Grey; the land on its banks, with the exception of a few grassy hills on the northern side, was very scrubby and indifferent. Ascending the high sandstone country on the S. side of the river, we halted at 5h. 35m. in a sandy valley trending N.W., in which we found a small patch of grass around a native well; but we were not much in want of water, being completely drenched by a heavy shower of rain just after we halted.

8th. Resumed our journey at 8h., steering N. 150° E. mag. over a range of high scrubby sandstone hills. At 1h. 15m. crossed a small stream-bed, trending westwards in a wide scrubby valley. At 3h. 5m., having ascended the hills to the S. of the valley, observed a remarkable sandstone hill which I had passed on a previous excursion from Mr. Lefroy's station at Welbing. Altering the course to 170° mag., we passed the hill; at 5h. 45m. halted in a fine grassy flat on the banks of a small brook-course trending W., in which we found abundance of water in small pools. As we were only 40 miles W. of Mr. Lefroy's station at Welbing, and the country in that direction already examined, I instructed Mr. C. F. Gregory to proceed with the party and the packhorses to Welbing, and thence by the road to Perth, while, accompanied by Mr. Bidart, I pursued a more direct but less eligible course for packhorses.

9th. Leaving the rest of the party at the bivouac at 9h. 50m., in company with Mr. Bidart we steered a general course of S. by E. mag. over hills of sandy loam, producing a little grass and thickly timbered with red gum. Passed several extensive grassy valleys, with many fine patches of rich limestone land on their slopes. At 2h. the grass was replaced by scrub, and at 3h. 30m. entered the wide scrubby valley of the Moore River, which we reached at 4h. 20m. After some delay in crossing the river, in consequence of one of the horses falling down in

the mud, from which we had some trouble to extricate him, we bivouacked about 1 mile below the spot where we first made the river.

10th. Leaving the Moore River we steered S. by W., and after traversing a nearly level sandy plain, producing banksia and scrub, with many lagoons and swamps, in 8 hours' riding reached the Norcott or Gingen Brook. The banks were low and swampy; after a short search found a suitable place for crossing, and having swam the horses across, we halted for the night on the left bank.

11th. Started at 7h., steering E. by S. mag.; ascended the western Wilbinga Hill at 9h., and traversing a rough limestone country, with several reedy swamps, reached Lake Newergup at 2h. 50m., and at 4h. halted on the western side of the Wanaginup Swamp.

12th. *Sunday.* Once more in the saddle, and following the road past Wonneroo, arrived in Perth at 2h. 30m.

Mr. C. F. Gregory having accompanied the party to the Victoria Plains, proceeded with Private W. King by the Bindoon road to Perth, where he arrived on the 17th.

The total distance travelled in this expedition was, in round numbers, 1500 miles, and the extreme point reached, in latitude 27° S., 350 miles from Perth in a direct line; and the period we were engaged in the expedition was 10 weeks.

III.—*His Excellency Charles Fitz-Gerald's Expedition to the Murchison River.*

December 1st. Sailed from Freemantle in the 'Champion' for Champion Bay, where we arrived on the 3rd, swam the ponies on shore, and encamped at the mouth of the Chapman river.

4th. His Excellency the Governor came on shore, when the party, consisting of the Governor, Mr. Bland, and myself, with three soldiers of the 96th regiment, and the Governor's servant, started at 7h. 15m., steering N.E., crossed Moresby's flat-topped range at 9h., made the N. Chapman at 10h., followed the stream upward till 11h. 50m., the general course N.E. by N. One native man and two women came up, and then retired to the other side of the river, watching our proceedings. Having dined, we started again at 2h. 25m., steering a general N. course over an indifferent scrubby country till 4h. 40m., when we halted for 20 minutes to examine the black shale-like soil which was seen on a former occasion, but on digging it proved to be only alluvial soil resting on sand; from this spot we steered N. 330° mag. over high sandy hills covered with scrub, the country gradually improved, and at 7h. we halted for the night, in a small grassy gully trending N.W., obtaining water in a native well.

5th. Started at 6h. 40m., continuing the same course as yesterday evening over a succession of grassy hills of granitic formation till 11h. 10m., when we halted on the eastern branch of the Bowes river; several natives shortly came to the encampment, and having eaten some biscuit and pork which we offered to them, retired in the evening to the opposite side of the stream-bed, keeping a close watch on us from behind some large rocks: a strict watch was therefore maintained by us during the night.

6th. This morning the natives commenced by throwing stones at the men who went down for the water, but we did not see any other method of resenting it, except by expressing our disapprobation in words, and at 5h. 35m. we started on a N.N.W. course, the natives followed for about a mile, and continued throwing stones at the party. The country passed over was generally grassy granite hills till 9h., when we ascended the high table land between the valley of the Bowes and Hutt rivers, which last we reached at 10h. 25m., and halted during the heat of the day on a pool of brackish water; at 3h. 20m. again started, and following the river downwards, in a general course of 310° mag. at 6h. 10m. bivouacked at the spot where we had before halted on the 17th of October, the water in the